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FIG. 1A

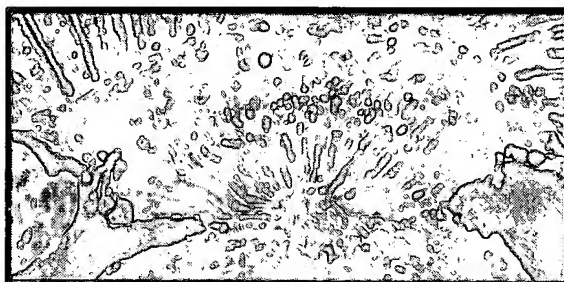


FIG. 1B

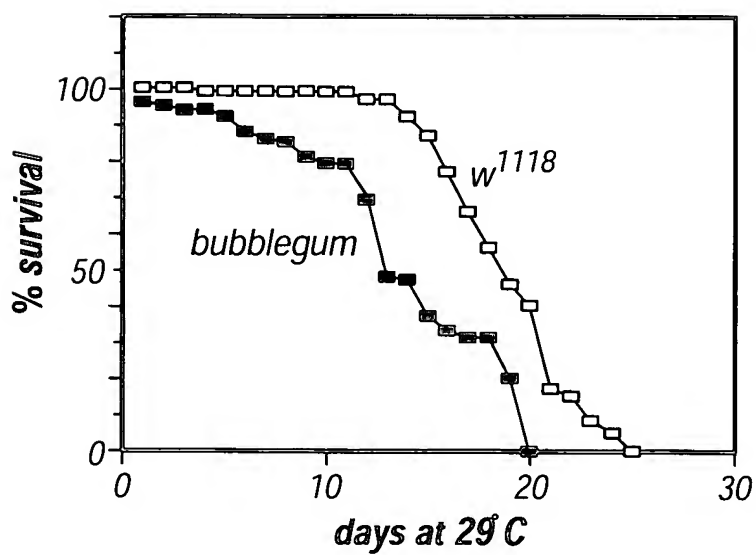


FIG. 1C

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FIG. 2A

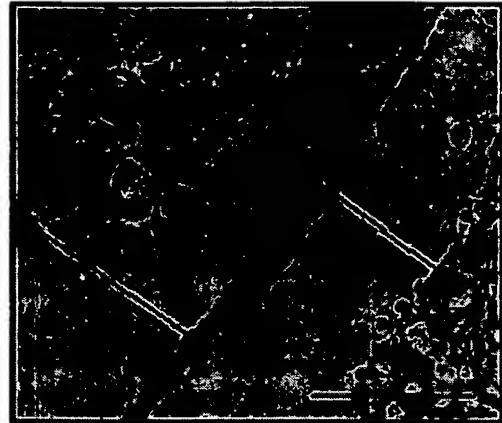


FIG. 2B

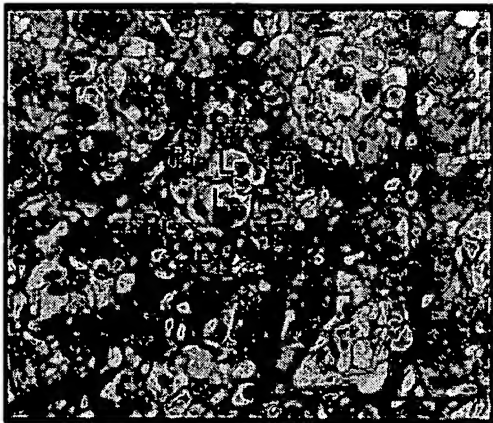


FIG. 2C



FIG. 2D

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CTGAATTCGGTCGTGTTTGCTGCTGCTGGTTCGAGCGAAAGAGTGGAGTATAGAAA
ATAGACGGCAATCGATTTGCGTGACCAAGAAACAATAATATACATACATATATCGAGAACGC
CGTAGAAACACCAACTAGTTAATTAATCCTTGCAACAIGTCCACGATAGACGCGCTCTACAAT
CGTCCTGGCCCAACCGCTGCGGCAGGCGGATGCCATCGCACCAACCAATCGTCAGGAT
GCCGTCAAGATTCTGATGGCCAAGGATGGAATCGGCGCAGAGAGCCCATCTCCGTGCCC
GGCCTGCTGAAGCGTACGGTCAACAAATTAATGGGACTATCCTGCGCTGCGCACCAAGAACG
GCAAGAACGGATATCACACTGTCACCTACAAACAATATGAGCAGAAGTGCCACAGTGCC
CAAGCGTTCAATTAAGCTCGGCTGGAGGAGCACCATTCGGTGGTGTGCTGGCCTTCAAT
TGCGCCGAATGGTTCTACTCGGCCATGGGGCCATTACGACGAGGCGATCATCGCCGGAA
TCTACACCAACCAATTCGCCGATGCAATGCAAGCACGTTCTGGAGAGCTCACATGCCCAAAT
CGTGTGCTCGACGACGCCAAGCAAAATGGACAAGATTACGCCATTGCGACAAGCTGCC
AAGCTCAAGGCCGCCATTCAAGTCCAGGAGCCCTATTCCCCCTACTTGAAGAAGGAGGATG
GCTACTACAGGTGGTCGGAGATCGAGTCGATGAACGTTAGCGACGTGGAGGATCAGTACAT
GACCCGTTTGGAGAAATGTGGCGATCAACGAGTGTGCTGCTGCTGTCTACACCTCCGGAACG
GTGGCATGCCCAAGGCGTGATGCTCTCCACGACAACATCACCTTCGATGTGCGCGGCA
TCGTCAAGGCCATGGACCGTGTGGTGGTGGGCGGAGTCGATCGTCTCCTACCTGCCACT
TTCGCACGTGGCCGCCAGACCGTGACATTACACCTGCGCCTTTGTGGCGGCTGCATT
TGGTTCGCCGACAAGGATGCGCTGAAGGGAACGCTGGTGAAGTCGTTGCAGGATGCGCGA
CCACGCGATTATGGGCGTCCCGCTGTGTACGAGAAGTCCAGGAGCGAATGGTCGCC
GTGGCCAGCTCCAGCGCAGCCTGAAGAAAGATGCTCGCCAGCTGGGCCAAGGGCATCACG
CTGAAGCACTACATGTTAGTCAAGGCAAGAGCTCCGGGGATTCGGGTACAAGATTGCCA
AGTCGCTCATCATGTCCAAGTGAAGCAGGCCCTGGGCTTCGATCGCGTCTTACACTGGC
CAGTGGCGCAGTCCCATGTGCGCCGGAGACGAAGAAGTACTTCTCAGTCTGGACCTAAAG
ATTGTCGATGCCTTCGGCATGTCAAGAAACGGCCGGTTGTCAACCATCTGCCTTCCCGATT
CGTGGGTCTGAACACAATCGGCCAAAACCTTGCCCGGCTGCGAGTCCAAGTTCATCAACAAG

FIG. 3A-1

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GATGCCAACGGTCACGGAGAGCTGTGCATCCGAGGACGTCACGTTTTCATGGGCTACATCG
ACAAACAGGAGAACCCGAGGAGTCGCTGGATGACGACTGCTGGCTGCATTCGGTGATTT
GGATTGTGTGATGACAAGGGTTATGTTTCACTGACGGGACGATCCAAGGAGATCATCATTA
CCGCCGGCGGAGAACATACCGCCAGTGCACATCGAGAACACGATCAAGAGGAAGCTGG
ATGCCATTTCCAATGCCCTTTTGGTGGCGAGCAGCGCAATACTCACTGTTCTGATCACC
CTAAGACCCGAAGTGGACAAGGATTCCGGTGAGCCGCTGGACGAGCTTAGCCACGAGTCCT
CCGTGTGGTGAAATCGCTGGAGTGGAGCACAAAGACCGTATCGGATATCCTGGCCGCAG
GTCCCTGCCCAAGGTGTGGAAGTCCATCGAGGATGCCATTAAAGCGGCCAACAAAGCAGTC
CATTTCCAATGCCCAAAAGGTTCAGAAGTTCACCATTCGCGCACGACTTCTCCATTCCCA
CCGGCGAACTTGGACCCACCCACCTAAAGTTAAGCGCAACGTTGTGTCCAAAGATGTATG
CCGATGAGATCGAGAACTATATGCCCTAGATTCTCACTGCAAGATCGAAACCGATGATAGC
CGCGGAACCTTGAGCTTTAATGTGAATTTGAATTTAACGGACTTCCAAGCCCAATTGAGTGCCA
CTTTTAATTTGATTTAGGCTGATGTTAACTGTTGGATATTAACTAAGAACAACTATGGCCCTA
TGCCTAGGTAGACACGAGCTTGCCCAACGATTAGGTCCAGAGATCATTTAATTAGTAAGTAAG
TTTTATTTTTATATACTATTTGGTTGTACCAACTGAACAAACGAAAATTGTTATTGTCTGAAG
AGCAACAATAAATTTGTAATTAGATTAACTACCAAAAAA

FIG. 3A-2

Applicant(s): Kyung-Tai Min, et al.

METHODS AND COMPOSITIONS FOR MODULATING
NEURODEGENERATION

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CTGAATTCGGTCGTGTTGCTGTCGGTCTCGAGCGGAAAGAGTGGGAGTATAGAAAATAGACGGCA
ATCGATTTGCGTGACCAAGAACAAATATATACATACATATATCGAGAACGCCGTAGAAACACCAAACTAGTTA
ATTATCCTTGCAACMSTIDALYNRPGNRLRQADAYRTTNRQDAVKIRMAKDGI GAEEPI SVPGI
LKRTVNNGDY PALRTKNGKNGYHTVYKQYEQKVHQAFAFIKLGLEHHHSVGLAFNCA
EWFYSAMGAIHARGIIAGIYTTNSADAVQHVLSSHAIQIVVDDAKQMDKIHAIRDKLPKLKA
AIQIQEPYSPYLKKEDGYRWSEIESMNVSDVEDQYMTRELVAINNECCCLVYTSGTVMGPK
GVMLSHDNITFDVRGIVKAMDRVVGAESIVSYLPLSHVAAQTVDIYTCAFVAGCIWFADKDA
LKGTLVKSLQDARPTRFMGVPRVYEKFQERMVAVASSGSLKKMLASWAKGITLKHVMVS
QKSSGGFRYKIAKSLIMSKVKQALGFDRVLTLSAAAPMSPETKKYFLSLDLKIVDAFGMS
ETAGCHTICLPDSVGLNTIGKTLPGCESKFINKDANGHGEICIRGRHVFMGYIDNKEKTEESL
DDDCWLHSGDLGFVDDKGYVSLTGRSKEIIITAGGENIPPVHIENITIKKELDAISNAFLVGEQR
KYLTVLITLKT EVDKDSGEPLDELSSHVWVKSGLVEHKT VSDILAAGPCPKVWKSIEDAIK
RANKQISNAQKVQKFTILPHDEFIPTGELGPTHPKG*CGGACTTCCAAAGCCAATTGAGTGCCACTTT
TAATTTGATTTAGGCTGATGTTAACTGTTGGATATTAACTAAGAACAACTATGCCCTATGCCCTAGGTAGACA
CGAGCTTGCCCAACGATTAGGTCCAGAGATCATTTAATTAGTAAGTAAAGTTTATTTTATATATACTATTGGTTG
TACCAACTGAACAAACGAAAATTGTTATTGCTGAAGAGCAACAATAAAATTGTAATTAGATTAACTACCAAAA
AAAAAAA

FIG. 3A-3

Applicant(s): Kyung-Tai Min, et al.

METHODS AND COMPOSITIONS FOR MODULATING
NEURODEGENERATION

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B = *Bubblegum*
H = *Human KIAA0631*
R = *Rat VLCFA Synth.*

B MSTIDALYNRP[GNRLRQADAYRTTNR--QDAVKIRMAKDGIGAEFPISVPGILLKRTVNNYGDYF] 10 20 30 40 50 60 70
 H GIGNLNCBIEXTACCFPAAKIAAPR--TEINRLRIDPSCP--QLPYTVHRMFYEALDKYGDLI
 R MLPVLYTGLAGLLLP[LLLTCCCPYLLQDVRFFLQLANMARQVRSYRQRRPVRTILHVFLEQARKTPHKP] 20 30 40 50 60 70
 B ALRTKNGKNGYHTVYKQYEQKVHQVAKAFIK-LGLEEHHSVGVLAFNCAEFYSAMGAIHARGIIAGIY 80 90 100 110 120 130 140
 H ALGFKR-QDKWEHISYSQYLLARRAAKGFLLK-LGLKQAHSAVAIILGFNSPEWFFSAVGTFFAGGIVTGIIY
 R FLFRD-----ETLTAAQVDRRSNQVARALHDHLGLRQGDCAVLFMGNEPAYVWLWLGILLKLCPCMACLN 150 160 170 180 190 200 210
 B TTNSADAVQHVLESSEAQIVVVD[DAKQMDKIHAIRDKLPKLKAAIQIQEPYS]PYLKKEDEGYRWSIEISM
 H TTSSPEACQYIAYDCCANVIMVDTQKQLEKILKIWKQLPHLKA[VVIYKEPPP---NKMANVYTMEEFMEL
 R YNIRAKSILHCFQCCGAKVLLAS-PELHEA[VVEEVLPTLKKEGVSVFYVSRTS]---NTNGVDTVLDKVDGV 220 230 240 250 260 270 280
 B NVSDVEDQYMTTRLENVAINECCCLVYTS[GTVMGPKGVMLSHDNI]TFDVRGIVKAMDR--VVVGAESIVSY
 H GNEVP[EEALDAI]IDTQQPNQCCV[VYTS]GTTGNPKGVMLSDQDNITWTARYGSGAGDIRPAEVQQEVVVS
 R SADPIPESWRSEVTF[TFP---AVYIYTS]GTTGLPKAATINHHRLWYGTSLALRSIGIK-----AHDVITYT- 290 300 310 320 330 340 350
 B LPLSHVAAQTVDIYTC[AFVAGCIWFADKDALKGTLVKSLQDARPTRFMGVPRVYEKFOERMVAVASSSGS
 H LPLSHIAAQIYDILWIGIQWGAQVCFAEPDALKGSLVNTLREVEPTSHMGVPRVWEKIMERIQEVAASQSGF
 R MPLYHSAALMIGLHGCI[VVGATIFALRSKFSAS-QFWD]DCRKYNATVIOYIGELRLRYLCNTPQKPNDRDHK

FIG. 3B-1

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B = *Bubblegum*
H = *Human KIAA0631*
R = *Rat VLCFA Synth.*

B	LKKMLASWAKGITLKHVMVSQ	360	370	380	390	400	410	420
H	IRRKMLIWAMSVTLQNLTCPGSDLPFTT							
R	VKIALGNGLRGDVMREFIKRFG							
B	LDLKIIVDAFGMSETAGCHTICLPDSVGLNT	430	440	450	460	470	480	490
H	LNIRLYAGYGLSETSGPHFMSSPYNYRLYS							
R	KVVRHELIIKYDVEKDEPVRDANGYCIKVP							
B	TEESLDDDC--WLHSGDLGFVD	500	510	520	530	540	550	560
H	TCEAIDEEG--WLHTGDA							
R	KLRDVFKKGDVYFNSGDL							
B	VGEQRKYLTVLITLKTVEVDKDSGEPLDELSHES	570	580	590	600	610	620	630
H	IGDQRKFLSMLTLKCTLPDTS							
R	PGHEGRIGMASIKMKENYEFNGKKLFQHI							
B	NKQSI	640	650	660	670	680	690	700
H	NMNAARPYHIQKWAII							
R	VIKDTLYFMDDDTEKTYVPMTE							

FIG. 3B-2

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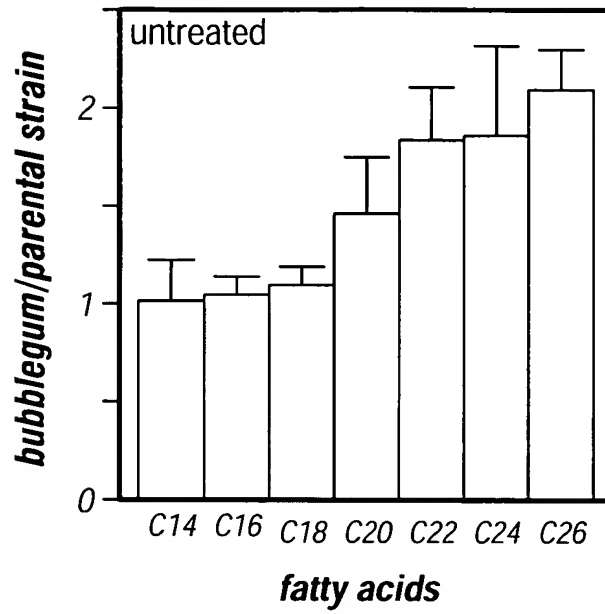


FIG. 4A

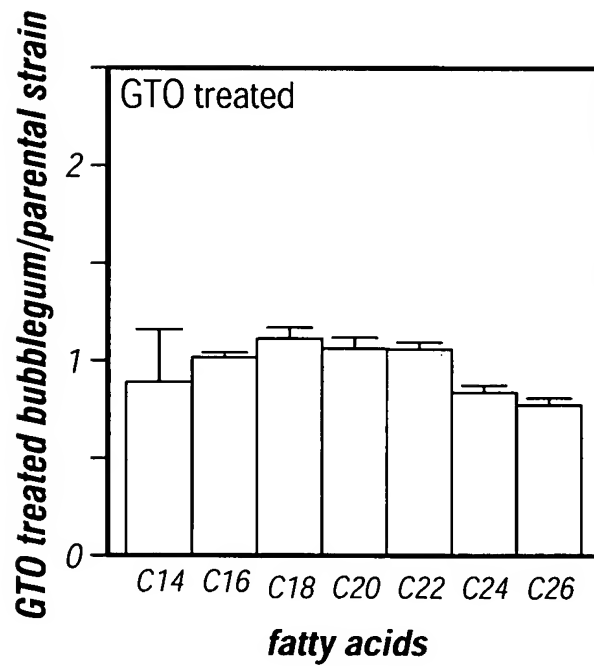


FIG. 4B

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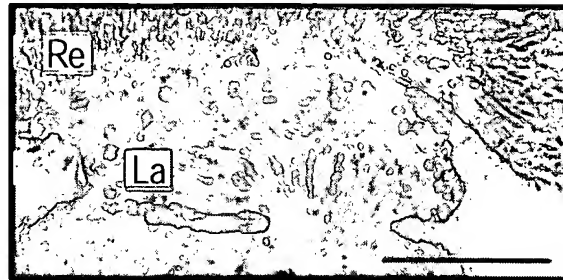


FIG. 5A



FIG. 5B

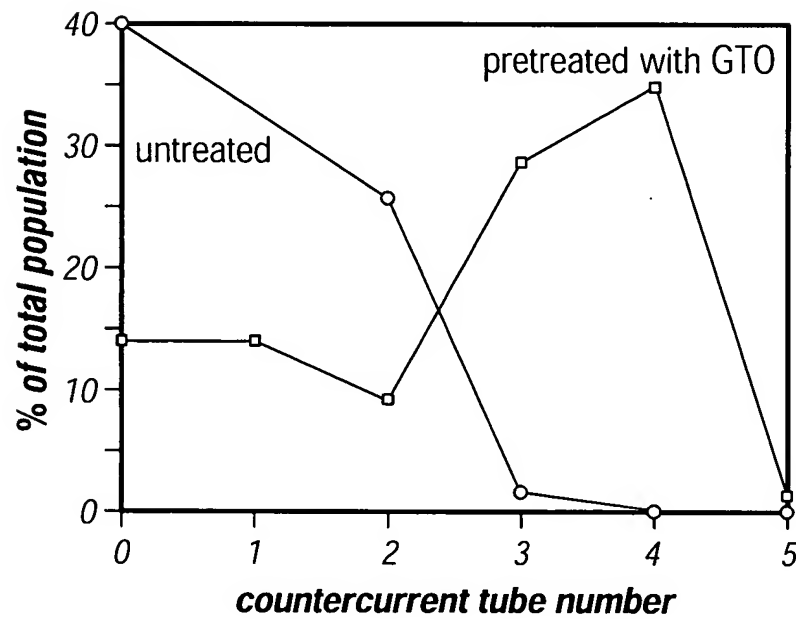


FIG. 5C

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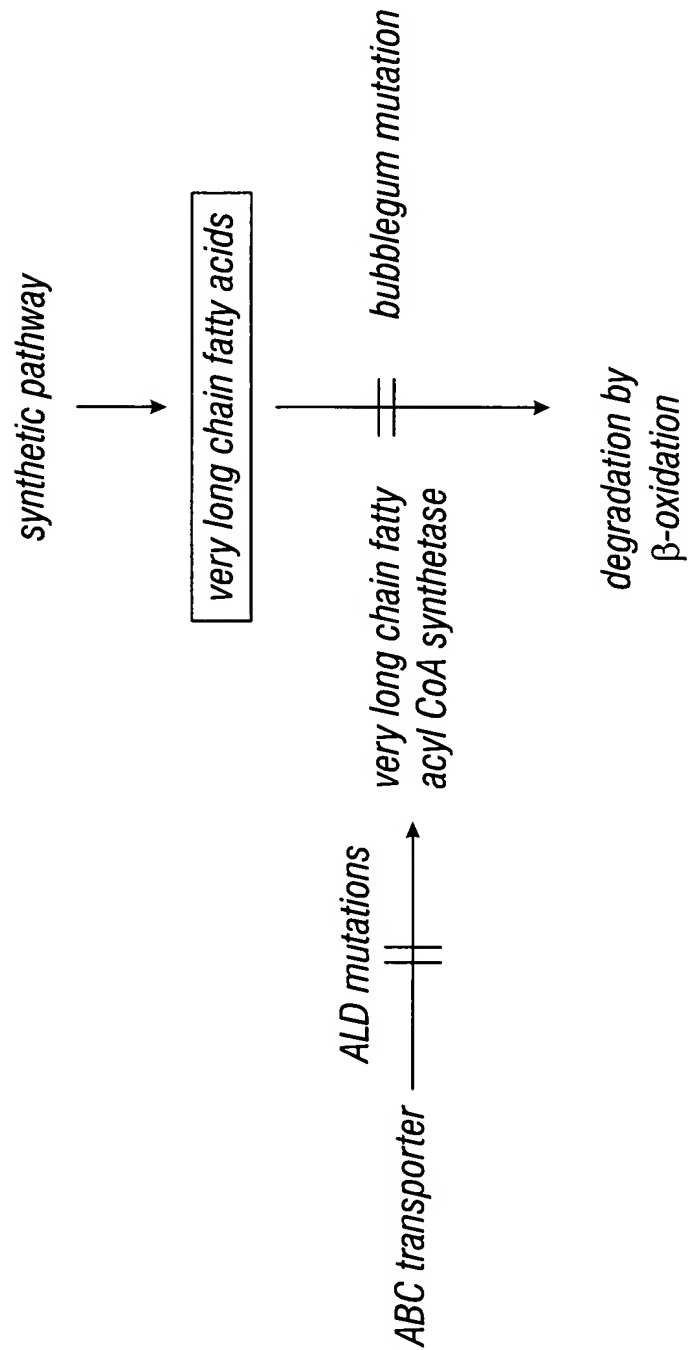


FIG. 6